



Epidemiological Survey of Accidents and Incidents in Haftkel During 2014

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Abstract

Background and aims: Injuries as a result of accident and other incidents are the largest and preventable public health issue in terms of morbidity and disability. Thus the present research aims to epidemiologically analyze the accidents in the individuals referred to Haftkel hospital during 2014.

Methods: The present research is a cross-sectional study with descriptive analytical approach conducted on a total of 667 patients referred to inpatient medical center and road emergency centers of Haftkel in Khuzestan province, due to the accidents from mid-March 2014 to early March 2015. Data analysis was conducted using frequency distribution and percentage for qualitative variables and mean (standard deviation) for quantitative variables and binary logistic regression and chi-square. $P < 0.05$ was considered statistically significant.

Results: From mid-March 2014 to early March 2014, 667 accident victims referred to inpatient treatment centers and emergency centers, around 67% of whom were men and 33% women. The highest number of injuries was found in the age range of 16 to 39 years (42.6%, $n=284$). More than half (56%) of these incidents occurred in city. More than 60% of the cases ($n=404$) were related to accidents and the others involved attack by animals, fall, burn, poisoning and strike. Chi-square test show a strong significant relationship between the injury induced death and the accident location ($P < 0.01$).

Conclusion: The majority of the injured people were men and half of the incidents were associated with traffic accidents and in addition, all deaths occurred due to accident by vehicles. Mortality rate due to traffic accident was very high.

Keywords: Accident, Haftkel, Epidemiology

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Introduction

Injuries due to accident and other incidents is one of the largest and preventable public health issues in terms of morbidity and disability.¹ Generally, accidents are defined as injuries or damages incurred to the body structure or performance by an external factor or force, whether physical or chemical; overall, they include the intentional accidents (suicide) and unintentional ones (falls and motor vehicle accidents).²

Injuries are considered as the major cause of death and disability worldwide.³ Injuries are one of the major health nuisances, sometimes resulting in death and incapacitation across the world^{4,5} and have turned into one of the most critical public health challenges.⁶

About 15000 individuals get hurt daily by minor

injuries and lesions.⁷ Around 5.8 million people die annually due to injury in the world^{4,7,8} that makes up 10% of total global deaths and also 16% of the injury-induced disabilities.⁷ Across the world, accidents and incidents are the factors account for 12% of the burden of diseases and the highest death rate are due to unintentional incidents⁹ and affect the individuals of all age ranges. Accidents and incidents impose heavy socio-economic burden on developing countries.¹⁰ Accident-incurred deaths are rapidly increasing in low- and middle-income nations⁷ and it is predicted that accident- incurred deaths will account for 8.4 million ones by 2020.¹¹ Annual rate of accident and incident in Nigeria was 10%.¹²

Millions of accidents and injuries incurred deaths

have only occurred due to a small part of the accidents and incidents. Tens of millions of the injured people refer to hospitals, emergency services and offices and/or they suffer from minor injuries not requiring medical care.⁷ The first step in preventing and controlling accidents and incidents is to collect the basic data about the extent and type of the injuries.⁷ Since it is a medical necessity to reduce and control the injuries and incidents and it is the condition for promoting life expectancy and in order to take preventive actions and control incident-induced damage, we require more appropriate and accurate data more urgently than everything else. Haftkel, a city in Khuzestan province, is centrally located and therefore, it has a relatively high number of road accidents. The present research aims to epidemiologically analyze the accidents in individuals referred to Haftkel Hospital during 2014.

Methods

The present research is a cross-sectional study with descriptive analytical approach conducted on a total of 667 patients referred to inpatient medical center and road emergency centers of Haftkel in Khuzestan province from mid-March 2014 to early March 2015; so, we did not need any sampling due to the accidents. These centers are the only medical emergency service providing centers in this town handling the reception and treatment of the majority of the victims in this town. All of the injured people were included in the study via census and the data were collected using hospital incident record form. Each injured person admitted to the hospital emergency filled out the incident record form in the emergency room in terms of informed consent. Questionnaire was derived from the country Incidents Record Program Data in Safe Communities; and the collected data included age, gender, incident type, the incident location and area, the incident outcome and the incident month and year. All the checklists were completed by the emergency nurses. In order to observe all ethical considerations, after acquiring permission from the head of the hospital, all data about the patients were gathered following ensuring confidentiality. After being collected, the data were entered into SPSS version 18.0 and data analysis was conducted using frequency distribution and percentage for qualitative variables and mean (standard deviation) for quantitative variables and binary logistic regression and chi-square. $P < 0.05$ was considered statistically significant.

Results

From mid-March 2014 to early March 2014, 667 victims of accidents and incidents referred to inpatient

treatment centers and emergency centers, around 67% of whom were men and 33% were women (Table 1). The highest number of injuries was found in the age range of 16 to 39 years (42.6%, $n = 284$).

The maximum number of incident cases was reported as fall in 298 cases (44.5%) and the minimum was observed in spring in 104 cases (15.5%). Moreover, more than half (56%) of these incidents occurred in city and the location in which the highest number of accidents occurred was house (48.9%) and the lowest number of the cases were reported from school (0.6%) (Table 2).

The interesting point is that more than 60% of the cases ($n = 404$) were related to accidents and the rest involved attack by animals, fall, burn, poisoning and strike (Figure 1).

The most engrossing point is that 25 cases were the accident-induced injuries.

Analyzing the relationship between injury-induced death and gender revealed that though the number of deaths among men was far more than that among women (21 versus 4 cases), binary logistic regression did not show any significant difference between them

Table 1. Distribution of Accident Victims in Terms of Gender

Gender	No.	%
Woman	444	66.6
Man	223	33.4
Total	100.0	66.7

Table 2. Distribution of Accidents in Terms of Location

Location	No.	%
House	326	48.9
Alley and street	145	21.7
School	4	0.6
Road and highway	146	21.9
Public place	20	3.0
Work place	26	3.9
Total	667	100.0

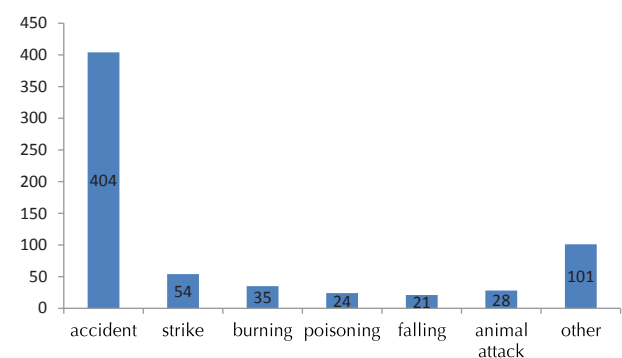


Figure 1. Frequency of Accidents in Terms of the Type of Incidents.

and as a result, no relationship was found between death and gender, although the odds for men was 2.7 ($P > 0.05$). However, chi-square test showed a strong significant relationship between the injury-induced death and the accident location ($P < 0.01$).

Discussion

From mid-March 2014 to early March 2015, 667 victims of accidents and incidents referred to inpatient treatment centers and emergency centers, about 67% of whom were men and 33% were women. In the present research, the majority of the injured people were the youth and teenagers and the individuals in working age, and the majority of them were 16 to 39 years old.

According to studies conducted in Kashan and Isfahan, the majority of the injuries were reported in the age range of 16 to 39 years.^{13,14} The fact behind the injuries being higher in working group results in the economic burden imposed on the economy of Iran and highlights the requirement of paying more attention to the risk-prone age groups.

In the current study, the majority of the injured people were men, similar to the studies done in Kashan, Isfahan, Shahrekord, Ghazvin, Nigeria and India, where the injuries occurred more frequently to men.¹²⁻¹⁸ The injuries happening more frequently in men can be due to the men's working conditions as they are more risky than those in which women work.

The accidents in men have been 4 times higher than that in women, which is consistent with the results of the research done in Kashan and Sanandaj.^{13,19} The study performed in Ghana indicated that the majority of the motorcycle accidents happened among men.²⁰ The study by Maraci and TabarIsfahani showed that the accident casualties were mainly men, that is, the youth and middle-aged group.¹⁸ Road traffic accidents are one of the main preventable causes of the premature diseases and deaths. For this matter, the policymakers are obliged to enforce more effective policies in order to lower the associated risks especially among men.²⁰ Overall, due to the cultural reasons, women are mainly housewives and driving is not so common among them, and due to the special kind of jobs most men are in charge of, the types of incident occurring among men and women differ. In addition, since the traffic injuries and incidents mostly affect the people in working age ranges that increase disability and days of absence from work, accompanied by imposing medical costs, they lead to heavy economic burden on both the family and society.

In this study, the incidence of accident was high among all age groups except for those over 80 years.

In the research done in Nigeria, the traffic incidents were the main causes of incidents in all age groups except for those who were 5 to 14 years of age.¹² In this research, 1.8% of the accidents resulted in death that was lower compared to the study done in Sanandaj (3.9%).

The results of the present study suggested that all incident-incurred deaths were due to accidents. In addition, in Mazandaran, the maximum number of incident-incurred deaths was related to road accidents.²¹ Accidents are the second leading cause of mortality in Iran.²² In the study conducted in Australia, New Zealand and the United States, motor vehicles induced deaths were the most important cause of work related deaths.²³ Accidents impose heavy costs on the society. Thus, the policymakers are obliged to support accident control policies with enforceable regulations.²⁰

More than 80% of the incident-induced deaths occurred in men. In the research done in Isfahan, 78%,¹⁴ Mazandaran 77%,²¹ South Khorasan 77%²⁴ and Ardebil 82%²⁵ of deaths have occurred among men, in line with the present research. Of course, concerning the occurrence of most incidents in men, more deaths are expected to occur in men but the percentage of incident-induced deaths is equal in both genders. Overall, 1.3% of the incidents in men and 1.6% in women have led to deaths.

The results of the current study displayed that the majority of the incidents resulted in hospitalization of men in this town and half of the incidents were associated with traffic accidents; in addition, all deaths occurred due to accident by vehicles, thus traffic police department is recommended to design and implement preventive interventions via cooperation with health centers.

The limitations of this study is using the country Incidents Record Program Data in Safe Communities that may not represent the whole victims (injured individuals) of this town since the victims admitted to more equipped medical centers and also the victims (injured individuals) referred to private offices due to minor injuries or those who received home remedies were not recorded in this hospital.

Ethical Approval

The local ethical committee approved the study.

Conflict of Interest Disclosures

None.

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